



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,225	11/08/2000	Keith Luker	1511-00	1140

22469 7590 08/25/2003

SCHNADER HARRISON SEGAL & LEWIS, LLP  
1600 MARKET STREET  
SUITE 3600  
PHILADELPHIA, PA 19103

17  
EXAMINER

SORKIN, DAVID L

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

BEST AVAILABLE COPY

**Office Action Summary**

Applicati n No.

09/708,225

Applicant(s)

LUKER, KEITH

Examiner

David L. Sorkin

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-5 and 7-35 is/are pending in the application.
- 4a) Of the above claim(s) 21-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5, 7-20, 34 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**BEST AVAILABLE COPY****Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1723

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 17 July 2003 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "mounting" recited in claim 8 and the "controller" recited in claim 16 must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 2-5, 7-20, 34 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject

Art Unit: 1723

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention:

5. Claim 8 recites the new limitation "a mounting directed in a direction". No mounting is described in the specification.

6. Claim 16 recites the new limitation "a controller for controlling said feed so that said mixer is not starve fed". No description of such a controller is provided in the specification. While on page 9, lines 3-5, it is stated that it is preferred to "utilize a separate starve feeding mechanism" and that alternatively the invention could operate "in the absence of any such controlling mechanism", a controller for not starve feeding is certainly not described in the instant specification.

7. New independent claim 34 recites a number of screw features. While the scope of the claim is not clear as discussed below regarding section 112, second paragraph, to the extent understood the screw features required by claim 34 are not described in combination in the instant specification. A summary of the screw features required by claim 34 is as follows:

- a. an substantially axially disposed inlet channel (this is consistent with channel "21" of Figs. 1A, 1B, 6A and 6B);
- b. a substantially axially disposed blocking wall which bounds said inlet channel (this is consistent with blocking wall "26" of Figs. 1A, 1B, 6A and 6B);

Art Unit: 1723

- c. a substantially axially disposed first cross-axial pump, to which the inlet channel is flowingly connected (this is consistent with pump "22" in Fig. 1A, 1B, 6A and 6B);
- d. a non-adjacent downstream channel;
- e. a first downstream channel being bounded on an upstream side of the first downstream channel;
- f. a second cross axial pump; (consistent with "24" in Figs. 1A, 1B, 6A and 6B)
- g. a second adjacent downstream channel being bounded by a blocking wall on an upstream side and a downstream axial side.

While items a, b, c and f taken alone are considered supported as indicated above, support for items d, e and g, is not found in the specification. A detailed explanation of what is considered not to be supported and why is as follows. Regarding item d, claim 34 recites "the inlet channel being ... flowingly connected to a non-adjacent downstream channel, where the flowing connection between the inlet channel and the non-adjacent downstream channel is a direct connection free of a flowing connection to the first cross-axial pump"; however, no support is found for this limitation. No description of any such non-adjacent downstream channel is found. Applicant has made no attempt to point out any support from such a channel. Regarding item e, claim 34 recites, "the first cross-axial pump being flowingly connected to a first downstream channel, the first downstream channel being bounded by a blocking wall on the upstream side of the first downstream channel"; however, no support is found for this limitation. No such "downstream channel bounded by a blocking wall on the upstream side" is disclosed.

Art Unit: 1723

Applicant has not pointed out any support for such a downstream channel and corresponding blocking wall. Regarding item g, according to applicant's remarks accompanying the amendment filed 17 July 2003, it appears that claim 34 is at least intended to be directed to the embodiment of Figs. 1A and 1B; however, the embodiment of Figs. 1A and 1B is not consistent with item "g". No channel having a blocking wall on an upstream side and a downstream axial side, as required by "g", is disclosed in the embodiment of Figs. 1A and 1B. Only the embodiment of Figs. 6A and 6B discloses a channel having a blocking wall on an upstream side and a downstream axial side. Page 7 lines 15-16 state of the embodiment of Figs 6A and 6B that "subsequent inlet channels are bounded by a flight on two sides" and Fig. 6B shows a circumferential wall bounding many of the axially oriented channels at the respective axial ends. No other figure depicts channels blocked in this manner. Still, it is not considered that even the embodiment of Figs. 6A and 6B fully discloses item "g" because no channel having a blocking wall on an upstream side and a downstream axial side could reasonable be considered a "downstream" channel because all such channels are at the same axial position as the "upstream inlet channel" which is "21".

8. Regarding new independent claim 35, it is considered that there is insufficient support in the specification for the recited "non-adjacent channel". Specifically, claim 35 recites "the upstream inlet channel constructed and arranged to directly flow into a non-adjacent channel located downstream of the cross-axial pump, whereby the plastified material flows from the upstream inlet channel to the non-adjacent channel without communicating through the downstream cross-axial pump". No support for these

Art Unit: 1723

limitations are founding in the specification. Applicant has not attempted to point out any support for this limitation.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims are 2-5, 7-20, 34 and 35 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scopes of the claims (2-5, 7-20, 34 and 35) are indefinite because of the confusing use of the terms "upstream" and "downstream". It is unclear if "upstream" and "downstream" are meant to refer consistently to opposite axial directions with respect to the screw, or to consistently refer to opposite circumferential directions, or if the terms are meant to indicate axial directions in some cases but circumferential directions in other cases. Applicant's remarks in the amendment filed 17 July 2003 (page 5, lines 10-11), "flow crosswise from one channel to the other, and then downstream as well", suggest that "downstream" is meant to be an axial direction; however, the channel referred to in the claims as an "upstream inlet channel" is at the same axial position as the channels referred to in the claims as "downstream channel[s]", according to the specification. One of ordinary skill in the art would not be reasonably appraised of the scope of the invention unless the terms "upstream" and "downstream" have a clear and consistent usage with respect to the claimed structure.

Additionally, it is unclear what is meant in claim 34 by "the inlet channel being ... flowingly connected to a non-adjacent downstream channel, wherein the flowing

Art Unit: 1723

connection between the inlet channel and the non-adjacent downstream channel is a direct connection". One of ordinary skill in the art would not understand what it means for the inlet channel to be directly connected to the downstream channel, but still be non-adjacent. To one of ordinary skill in the art, "the flowing connection is a direct connection", would essentially contradict the recitation that the channels are "non-adjacent". Likewise, in claim 35, recitation of flow "from the upstream inlet channel directly to the non-adjacent channel" would be confusing to one of ordinary skill in the art.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. While it is unclear what is being claimed as discussed above with regard to section 112, second paragraph, the claims have been considered with regard to the prior art to the extent possible.

13. Claim 35 is rejected under 35 U.S.C. 102(b) as being anticipated by Housz ('146). Housz ('146) discloses an extruder mixer for plastified materials comprising a rotatable elongated screw (4) the screw having a mixing section (6,7) having an upstream inlet channel (17) flowingly connected adjacent to one side of a downstream cross-axial pump (14), the upstream inlet channel constructed and arranged to directly flow into a non-adjacent channel (that defined by helical flight 7) located downstream of



Art Unit: 1723

the downstream cross-axial pump (14), whereby the plastified material flows from the upstream inlet channel (17) directly (over dam 16) to the non-adjacent channel without communicating through the downstream cross-axial pump (14). Regarding the phrase "adapted to mix plastified materials by elongational dispersion", it is considered that the mixing section of Housz ('146) would be capable of performing this function. Housz ('146) describes how melted materials are dispersed away from portions of unmelted material which they were originally near (see col. 3, lines 12-22).

### ***Status of Claims***

14. None of the claims is considered to be directed to allowable subject matter. While claims 2-5, 7-20 and 34 are not rejected under section 102 or 103, they are considered to be directed to subject matter which was not described in the disclosure as original filed and are therefor not directed to allowable subject matter. All claims have been considered with regard to the prior art to the extent possible given their indefinite scope. As best understood, claims 2-5, 7-20 and 34 cannot be properly rejected under section 102 or 103, while claim 35 is rejected under section 102 above.

### ***Response to Arguments***

15. Applicant's arguments regarding claim 34 as it relates to the prior art are moot, as no rejections under section 102 have been applied to claim 34. To the extent that the claim can be understood, the examiner agrees that the previously cited references do not disclose the combination of elements listed on pages 5 and 6 of applicant's remarks as A-I. For example, in Araki ('790) all the channels, flights, "pumps", and blocking walls are helical. No "substantially axially disposed blocking wall" and no

Art Unit: 1723

"substantially axially disposed" pump is disclosed by Araki ('790). While Housz ('146) discloses these axial features, as claim 34 is best understood, Housz ('146) does not disclose a channel having a blocking wall on an upstream side and a downstream axial side, as required by claim 34.

16. On the other hand, as best understood, claim 35 is disclosed by Housz ('146). Applicant has failed to establish any structural distinction of claim 35 over the extruder mixer of Housz ('146). Applicant's remarks do not include any specific discussion of how applicant believes claim 35 is patentable over Housz ('146).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



David Sorkin